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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/645,868

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Jong-hoon Lee

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EXAMINER

LAMB, CHRISTOPHER RAY

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 08/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/645,868	Applicant(s) LEE ET AL.	
	Examiner Christopher R. Lamb	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/10/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “based on a length of the defect, classifying the defect into a first category indicating that the data is normally recordable and a second category indicating that the data is not normally reproducible even though the data is normally recordable” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New

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Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claim 12 is drawn to a "program" per se as recited in the preamble and as such is non-statutory subject matter. See MPEP § 2106.IV.B.1.a. Data structures not claimed as embodied in computer readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define

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any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takasago et al. (US 4,730,290) in view of Kamiyama (US 6,341,113).

Regarding claim 1:

Takasago discloses a method of controlling a recording operation of an optical disc recording apparatus which records data to a recordable optical disc having a defect (column 2, lines 30-45), the method comprising:

based on a length of the defect, classifying the defect into a first category indicating that the data is normally recordable and a second category indicating that the data is not normally reproducible even though the data is normally recordable (column 3, lines 25-60: the first category is when the duration is less than T_1 , the second when it is between T_1 and T_2);

detecting the defect while recording the data to the recordable optical disc (column 3, lines 25-60);

determining the length of the defect and a type of the defect based on the length of the defect (column 3, lines 25-60); and

as a result of the determining, if the defect corresponds to the first category, assuming that the data is normally recorded in a defect region and continuing recording of the data (column 3, lines 25-60: time less than T_1), or if the defect corresponds to the second category, further recording of the data recorded in the defect region in another region (column 3, lines 25-60: time between T_1 and T_2 ; it is re-recorded "in an alternate sector in the same track").

Takasago does not disclose:

"If the defect is detected, continuing recording of the data in the recordable disc while controlling a servo unit to hold a servo tracking by using a previous servo control value which is used before the defect occurs."

Kamiyama discloses: if a defect is detected, continuing recording of the data in the recordable disc while controlling a servo unit to hold a servo tracking by using a previous servo control value which is used before the defect occurs (column 1, lines 10-25).

Kamiyama discloses that this is necessary, because it is impossible to generate an appropriate tracking signal otherwise (column 1, lines 10-20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Takasago wherein If the defect is detected, continuing recording of the data in the recordable disc while controlling a servo unit to hold a servo tracking

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by using a previous servo control value which is used before the defect occurs, as taught by Kamiyama.

The motivation would have been to generate an appropriate tracking signal, keeping the laser on-track, as taught by Kamiyama.

Regarding claim 2:

Takasago discloses: classifying the defect into a third category indicating that the data cannot be normally recorded and the defect causes a servo error (column 3, lines 25-60: time greater than T_2); as a result of the determining, if the defect corresponds to the third category, stopping the recording operation (column 6, lines 40-50).

Regarding claim 3:

In Takasago, the recordable optical disc is a recordable compact disc (Takasago does not use this term, but it is clear from Takasago's description in column 1 that Takasago's disc is a recordable compact disc).

Regarding claim 4:

Takasago does not disclose that the recordable optical disc is a recordable digital video disc.

The Examiner takes Official Notice of the existence of recordable digital video discs.

It would have been obvious to one of ordinary skill in the art to use Takasago's method with a recordable digital video disc, because the Examiner takes Official Notice of the existence of recordable digital video discs.

The motivation would have been to control defects on these type of discs as well.

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Regarding claims 5-7:

All elements positively recited have already been identified with respect to claims 1-4.

Regarding claims 8-11:

These are apparatus claims corresponding to method claims 1-4. Takasago in view of Kamiyama inherently includes the processing unit, defect detection unit, defect type determination unit, etc., necessary to implement the method and thus meets these claims as well.

Regarding claim 12:

Takasago discloses a controller (Fig. 1: 30) and thus Takasago in view of Kamiyama inherently includes a program executed by a processor to record data. All other elements of this claim have already been discussed with regards to earlier claims.

Regarding claim 13:

All elements of this claim have already been discussed with regards to earlier claims.

Regarding claim 14:

In Takasago the first reference length is a maximum length of the defective region where a servo status is stable and data is readable without any additional operation of the optical disc recording apparatus after data is recorded (the T_1 threshold is one where the off-track is not considered to be severe enough to require writing in a different region: column 3, lines 1-60).

Regarding claim 15:

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In Takasago the second reference length is a maximum length of the defective region where a servo status is stable, but errors occur when the data is read after being recorded (the servo is not considered "off-track" to the point where the recording operation has to be stopped, but the data must be rewritten in an alternate sector on the track: column 3, lines 1-60).

Regarding claims 16-19:

All elements positively recited have been discussed with regards to earlier claims. No further elaboration is necessary.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kanda et al. (US 4,982,394) discusses holding servo tracking when a defect is detected; Nakane et al. (US 6,621,782) discusses classifying defects.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 7/27/06


THANG V. TRAN
PRIMARY EXAMINER